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Notice of Allowability	Application No.	Applicant(s)	
	10/628,469	KOGA, TORU	
	Examiner	Art Unit	
	VanThu Nguyen	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 29 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>02/02/04, 07/29/03</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>Search Report</u> . |


 VanThu Nguyen
 Primary Examiner
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Allowable Subject Matter

1. Claims 1-8 are allowed.

Takahashi discloses, in FIG. 1, a semiconductor memory comprising sub memory units (MCs) with bit lines; sense amplifiers (SA1-SA7); inherent column switch areas and column switch circuits; main memory units (groups of MCs with corresponding sense amplifiers SA0-SA1, SA2-SA3, SA4-SA5, SA6-SA7) having different addresses from each other (corresponding to CL<0> and CL<1>); a redundancy memory unit (RMCs). However, Takahashi does not disclose every two of said column switch areas are formed in mirror symmetry; and said bit lines corresponding to different data terminals with numbers; for each of said data terminals, the data bus lines having a same logic are wired in said main memory units and said redundancy memory unit.

Morishima discloses, in FIG. 1, a semiconductor memory comprising sub memory units (M1-M8); sense amplifiers (within RW1-RW8); column switch areas and corresponding column switch circuits within (CS1-CS8); a redundancy memory unit (M9); wherein every two of said column switch areas are formed in mirror symmetry (see FIG. 9). However, Takahashi does not disclose main memory units comprising an even number of sub memory units; said bit lines in each of sub memory units corresponding to different data terminals with numbers; for each of said data terminals, the data bus lines having a same logic are wired in said main memory units and said redundancy memory unit.

Lee et al. disclose, in FIG. 5, a semiconductor memory comprising a plurality of sub memory units (12a1-12a4), each has bit lines corresponding to different terminals (Q1-Q8). However, Lee et al. do not disclose a redundancy memory unit.

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Therefore, Takahashi, Morishima, and Lee et al., taken individually or in combination, do not teach the claimed invention having data bus lines having a same logic are wired in said memory units and said redundancy memory unit for each of said data terminals, in combination with the remaining claimed limitations.


Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VTN
August 23, 2004


VanThu Nguyen
Primary Examiner
Art Unit 2824